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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/791,624	03/02/2004	Sebastian Hoerold	2003DE104	3132

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CLARIANT CORPORATION  
INTELLECTUAL PROPERTY DEPARTMENT  
4000 MONROE ROAD  
CHARLOTTE, NC 28205

EXAMINER
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KHAN, AMINA S

ART UNIT	PAPER NUMBER
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1751

DATE MAILED: 11/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/791,624

Applicant(s)

HOEROLD ET AL.

Examiner

Amina Khan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 03/02/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 5/31/05 6/21/05.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: IDS 9/30/05.

## DETAILED ACTION

### *Specification*

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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3. Claims 1-6,11-14,16,17,20-24,26-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schlosser et al. (US Patent 6,547,992) in view of Brewer et al. (US Patent 6,649,704).

The primary reference of Schlosser et al. teaches flame retardant compositions for thermoplastic polymers comprising 1-30% of phosphinates of formula (I) and diphosphinates of formula (II): in which  $R^1$  and  $R^2$  are identical or different, and are  $C_1$ - $C_6$ -alkyl, linear or branched, phenyl, methyl, ethyl, n-propyl, isopropyl, n-butyl, tert-butyl, or n-pentyl;  $R^3$  is methylene, ethylene, n-propylene, isopropylene, n-butylene, tert-butylene, n-pentylene, n-octylene, n-dodecylene, phenylene, naphthylene, methylphenylene, ethylphenylene, ter-butylphenylene, methylnaphthylene, ethylnaphthylene, tert-butylphenylene, phenylmethylene, phenylethylene, phenylpropylene, or phenylbutylene; and M is calcium, aluminum or zinc ions (column 1, line 34 to column 2 line 14) as claimed in claims 1-5.

The primary reference teaches that the flame retardant compositions further comprise nitrogen-containing synergists of formulas (III)-(VIII) and nitrogen-containing phosphates of the formula  $(NH_4)_yH_{3-y}PO_4$  or  $(NH_4PO_3)_z$ , preferably benzoguanamine, tris(hydroxyethyl)isocyanurate, allantoin, glycoluril, melamine (4-8.5%, column 11, tables 7-8), melamine cyanurate (20-30%, column 8, table 2), melamine phosphate (15-30%, column 8, table 2), dimelaminephosphate, or melamine pyrophosphate (column 2, line 39 to column 3, line 48), which meets the claimed limitation of component B as claimed in claims 1,6 and 11-14.

The primary reference teaches that the flame retardant compositions further comprise 0.1-10% magnesium hydroxide, hydrotalcites, magnesium carbonates, zinc oxide, zinc stannate, zinc borate, or aluminum hydroxide (column 2, lines 15-26; column 4, lines 5 and 6), which meets the claimed limitation of component C, as claimed in claims 1, 16 and 17.

The primary reference further teaches flame retardant plastic molding compositions comprising the 1-30% of component A and 0.1 to 10% component C by weight based on the plastic molding composition and thermoplastic polymers chosen from high impact polystyrene, polyphenylene ethers, polyamides, polyesters, polycarbonates or blends or polymer blends of polycarbonate/acrylonitrile-butadiene-styrene (column 3, line 58 to column 4, line 12) as claimed in claims 20-24 and 26-29.

The primary reference does not teach 0.1-5% by weight of N,N'-bis(2,2,6,6-tetramethyl-4-piperidyl)-1,3-benzenedicarboxamide as claimed in claim 1.

The secondary reference of Brewer et al. in the analogous art of thermoplastic compounds teaches compositions comprising N,N'-bis(2,2,6,6-tetramethyl-4-piperidyl)-1,3-benzenedicarboxamide (column 18, lines 64-67). It would be obvious to one of ordinary skill in the art at the time the invention was made to modify the primary reference of Schlosser by incorporating N,N'-bis(2,2,6,6-tetramethyl-4-piperidyl)-1,3-benzenedicarboxamide as taught by the secondary reference of Brewer since Schlosser invites the inclusion of stabilizers (column 6, lines 60-62). The burden is on the applicant to prove otherwise.

Furthermore, it would also be obvious to arrive at the 0.1-5% of N,N'-bis(2,2,6,6-tetramethyl-4-piperidyl)-1,3-benzenedicarboxamide because it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

4. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schlosser et al. (US Patent 6,547,992) in view of Brewer et al. (US Patent 6,649,704) and in further view of Schlosser et al. (US Patent 6,255,371).

The primary references of Schlosser et al. and Brewer et al. are relied upon as set forth above. The primary references do not teach melam, melem, melon, dimelamine pyrophosphate, melamine polyphosphate, melem polyphosphate, melam polyphosphate, melon polyphosphate or mixed polysalts thereof as claimed in claims 7-10.

The secondary reference of Schlosser et al. in the analogous art of flame retardant compositions teaches compositions comprising the reaction products of condensation products of melamine or melamine with phosphoric acid, specifically melam, melem, melon, dimelamine pyrophosphate, melamine polyphosphate, melem polyphosphate, melam polyphosphate, melon polyphosphate (column 2, lines 48-60). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the primary reference by incorporating the condensation products and reaction products of melamine with phosphoric acid as taught by the secondary reference because the primary reference of Schlosser invites the inclusion of the

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condensation products and reaction products of melamine (column 3, lines 45-47). The burden is on the applicant to prove otherwise.

5. Claims 15, 25 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schlosser et al. (US Patent 6,547,992) in view of Brewer et al. (US Patent 6,649,704) and in further view of Mogami et al. (US Patent 5,684,071).

The primary references of Schlosser et al. and Brewer et al. are relied upon as set forth above. The primary references do not teach carbodiimides.

The secondary reference of Mogami et al. in the analogous art of flame resistant thermoplastic resin compositions teaches compositions comprising compounds with at least two carbodiimido groups (column 6, lines 34-37). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the primary reference by incorporating compounds with at least two carbodiimido groups as taught by the secondary reference because the primary reference of Schlosser invites the inclusion of other additives to molding compositions (column 3, lines 45-47). The burden is on the applicant to prove otherwise.

#### ***Allowable Subject Matter***

6. Claims 18 and 19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The claims would be allowable because the prior art does not teach 50-90% by weight of component A (phosphinates of formula (I) and diphosphinates of formula (II)).

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7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amina Khan whose telephone number is (571) 272-5573. The examiner can normally be reached on Monday through Friday, 8:30-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra Gupta can be reached on (571) 272-1316. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Amina Khan, PhD  
Patent Examiner  
November 1, 2005



NECHOLUS OGDEN  
PRIMARY EXAMINER